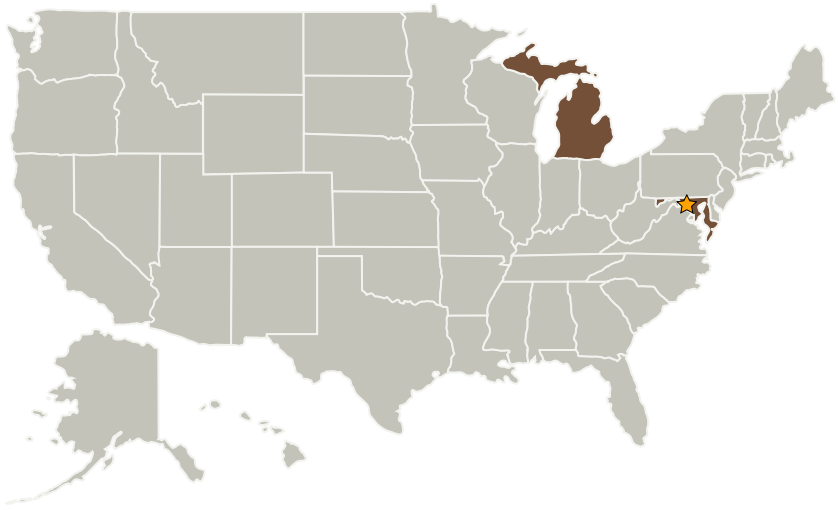
Lightweight Tunable Infrared Filter, Phase II

Completed Technology Project (2004 - 2006)

Project Introduction

Michigan Aerospace Corporation has developed spaceflight qualified compact tunable Fabry-Perot interferometers for a number of applications, from ranging direct detection Doppler wind LIDAR applications to IR spectroscopy. Under a previous phase I SBIR, Michigan Aerospace developed a design for a spaceflight qualified lightweight tunable Fabry-Perot etalon for cryogenic applications utilizing reaction bonded silicon carbide for the etalon mount and support rings and successfully delivered a mount and rings cast from silicon carbide for use in a phase II, or another application, to house an etalon. Under the proposed phase II effort, Michigan Aerospace will develop and fabricated a lightweight, rugged tunable Fabry-Perot interferometer that will be spaceflight qualified. Also, under this proposed phase II effort, Michigan Aerospace will design and produce a digital etalon controller. Further, Michigan Aerospace will produce a detailed plan by which the digital etalon controller design can be transitioned from demonstration unit to flight qualified hardware.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
Michigan Aerospace Corporation	Supporting Organization	Industry	Ann Arbor, Michigan

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Maryland	Michigan

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.5 Lasers